REMARKS/ARGUMENTS

Reconsideration of this application is respectfully requested.

In response to the rejection of claims 1 and 40 under 35 U.S.C. §101, claim 1 has been amended and claim 40 has been cancelled. As amended, the claims are believed to be clearly within the ambit of statutory subject matter under 35 U.S.C. §101. For example, the claimed system now clearly recites at least one element of physical hardware.

The rejection of claims 1-8, 10-17, 31-37, 40-41 and 78-79 under 35 U.S.C. §102 as allegedly anticipated by Harvey WO '147 is respectfully traversed.

Harvey merely describes an arrangement of database tables for storing X.500 data in a relational database. The use of relational database management systems (RDBMS) for storing directory data, and the consequential limitations are discussed in the Background section on pages 2-4 of the present application.

Harvey describes an arrangement based on three database tables: an object table, an attribute table, and a hierarchy table. The object table defines each directory object as a row in the object table, with each row consisting of a value, an associated numeric attribute identifier, and an associated numeric hierarchy identifier. The attribute identifier is a key into the attribute table that defines generic object attributes (by name and type) for any directory object, and the hierarchy identifier is a key into the hierarchy table that defines the specific hierarchical relationships between directory objects

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(apparently by assigning a numeric (node) identifier to each object and the numeric (node) identifier of each object's parent in the hierarchy).

Although Harvey describes the separation of hierarchy information from other information describing directory objects, the attribute table does not store information on what attributes apply to any directory object, but merely constitutes a lookup table that defines generic attributes that are not specific to any directory object.

Moreover, merely because directory information is spread over three database tables on a disk-based storage medium does not place any restriction on how those tables are reproduced in memory. In particular, there is nothing in Harvey to teach or suggest segmenting physical memory into segments dedicated to storage of specific portions of directory data as required by the claims of the present application.

The rejection of claims 18, 20-25, 27-30 and 39 under 35 U.S.C. §103 as allegedly being made "obvious" based on Harvey in view of Murthy '039 is also respectfully traversed.

Fundamental deficiencies of Harvey with respect to parent claim(s) have already been discussed above. Murthy does not supply those deficiencies.

Murthy describes a method for ensuring secure and consistent access to hierarchical and relational data within a relational database system. Specifically, separate database tables are used to store the content of resources that belong to a hierarchy ('content structures'), and information that represents the hierarchy itself ('hierarchy structures"). Both database tables store access control data that define user access

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privileges. This allows access privileges for a user requesting access to data to be determined by accessing the hierarchy structures when the request is made through a hierarchical access mechanism, or accessed in content structures when the request is made through a relational access mechanism.

Given the fundamental deficiencies of these references, it is not believed necessary to discuss at this time in detail the additional reasons for traversal of this allegedly "obvious" combination of teachings with respect to other features of applicant's independent and/or dependent claims.

The rejection of claim 9 under 35 U.S.C. §103 as allegedly being made "obvious" based on Harvey in view of Sudia '616 is also respectfully traversed.

Once again, fundamental deficiencies of Harvey have already been noted above with respect to at least one parent claim – and Sudia does not supply those deficiencies.

Sudia describes a method for securely using digital signatures in a commercial cryptographic system that allows industry-wide security policy and authorization information to be encoded into the signatures and certificates by employing attribute certificates to enforce policy and authorization requirements.

Given the fundamental deficiencies of these references already noted, it is not believed necessary to further explain the reasons for traversal at this time with respect to the additional recitations of claim 9.

The rejection of claim 38 on the same rationale as discussed above is also respectfully traversed for the same rationale as discussed above.

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The rejection of claim 19 under 35 U.S.C. §103 as allegedly being made "obvious" based on Harvey in view of Cook '726 is also respectfully traversed.

Once again, fundamental deficiencies of Harvey have already been noted above with respect to parent claim 1. Cook does not supply those deficiencies.

Cook describes a directory services system that includes a resource object, such as an application object, for accessing an actual resource associated with the resource object. Rights attributes of the resource object reflect information for controlling rights of a user to access the actual resource. The rights attributes may include criteria for distribution, and may be used to refine and control access to available instances of resource object based on certain criteria, such as an organization, membership, etc.

Given the fundamental deficiencies of these references already noted, it is not believed necessary at this time to detail the additional reasons for traversal with respect to the additional recitations of claim 19.

The rejection of claims 26 and 42 under 35 U.S.C. §103 as allegedly being made "obvious" based on Harvey and Murthy in further view of Cook is also respectfully traversed.

Fundamental deficiencies of these references have already been noted above with respect to at least one parent claim of the rejected claims. Accordingly, it is not believed necessary at this time to point out in further detail the additional reasons for traversal of this ground of rejection with respect to the additional recitations of claims 26 and 42.

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The rejection of claims 43-45 under 35 U.S.C. §103 is allegedly being made "obvious" based on Harvey in view of Hsu '664 is also respectfully traversed.

Once again, fundamental deficiencies of Harvey have already been noted above with respect to at least one parent claim. Hsu does not supply those deficiencies.

Hsu describes a method and system for performing the recovery of deleted user data in a database datafile. The datafile includes one or more flags indicating that the database datafile contains deleted user data. In order to recover deleted user data, the system receives at least one input indicative of the database datafile, and alters at least one reference in the database datafile that corresponds to addresses of deleted user data.

Given the fundamental deficiencies of these references already noted, it is not believed necessary at this time to detail additional reasons for traversal with respect to the additional recitations of these claims.

The rejection of claims 46-48, 50-54, 56-57 and 59-61 under 35 U.S.C. §103 as allegedly being made "obvious" based on Harvey in view of Kagan '681 is also respectfully traversed.

Once again, at least some fundamental deficiencies of Harvey have already been noted above with respect to at least one parent claim. Kagan does not supply those deficiencies.

Kagan describes methods and apparatus for identifying the actual population of data within computer memory utilized to support a relational database. Memory is

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defined as being populated if it is both allocated and actually filled with data, and this information could be used to recover memory resources.

Given the already noted fundamental deficiencies of these references, it is not believed necessary at this time to detail the additional deficiencies of these references with respect to additional claim recitations.

The rejection of claims 58 and 75-77 under 35 U.S.C. §103 as allegedly being made "obvious" based on Harvey and Kagan and in further view of Langseth '980 is also respectfully traversed.

Once again, fundamental deficiencies of Harvey and Kagan have already been noted above with respect to at least one parent claim. Langseth does not supply those deficiencies.

Langseth describes a personal intelligence network that actively delivers highly personalized and timely informational transactional data from an OLAP based channel database system to individuals via e-mail, spreadsheet programs (over e-mail), pager, telephone, mobile phone, fax personal digital assistants, HTML e-mail and other formats.

Given fundamental deficiencies of these references already noted above, it is not believed necessary at this time to detail additional reasons for traversal with respect to the additional recitations of these rejected claims.

The rejection of claims 62-66 and 70-73 under 35 U.S.C. §103 as allegedly being made "obvious" based on Harvey and Kagan in further view of Murthy is also respectfully traversed.

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Fundamental deficiencies of these references have already been noted above with respect to at least one parent claim. Accordingly, it is not believed necessary at this time to further detail reasons for traversal with respect to the additional deficiencies of this allegedly "obvious" combination of references vis-à-vis the additional recitations of these rejected claims.

The rejection of claim 49 under 35 U.S.C. §103 as allegedly being made "obvious" based on Harvey and Kagan in further view of Irwin '331 is also respectfully traversed.

As before, fundamental deficiencies of Harvey and/or Kagan have already been noted above with respect to at least one parent claim. Irwin does not supply those deficiencies.

Irwin describes a mass storage system that archives, stores, retrieves, and manages a plurality of data files that comprise a typical file-system as a single uninterrupted bit file.

Given the fundamental deficiencies already noted, it is not believed necessary at this time to detail the additional deficiencies of this allegedly "obvious" combination of references with respect to the additional recitations of claim 49.

The rejection of claim 55 under 35 U.S.C. §103 as allegedly being made "obvious" based on Harvey in view of Byrne '382 is also respectfully traversed.

As before, fundamental deficiencies of Harvey have already been noted above with respect to at least one parent claim. Byrne does not supply those deficiencies.

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Byrne describes a caching mechanism for a directly service having a backing store. Directory search results are cached over a given data capture period, and that information is then used to generate a data access history for the user for a particular application. The history is then used to generate and a recommended pre-fetch time, a filter key for the pre-fetch, and a preferred cache replacement policy (e.g., static or LRU).

Given the fundamental deficiencies of these references already noted, it is not believed necessary at this time to detail the additional reasons for traversal with respect to the allegedly "obvious" combination vis-à-vis the additional recitations of claim 55.

The rejection of claims 67-69 under 35 U.S.C. §103 as allegedly being made "obvious" based on a four-way combination of Harvey and Kagan and Murthy in further view of Cotte '048 is also respectfully traversed.

Fundamental deficiencies of at least one of the first three references have already been noted above with respect to at least one parent claim. Cotte does not supply those deficiencies.

Cotte describes a website for providing communications, including a caller recognition element that recognizes a caller of the website, and provides private communications between the caller and a specific entity associated with the webpage.

Given fundamental deficiencies already noted above, it is not believed necessary at this time to detail additional reasons for traversal of this allegedly "obvious" four-way combination of references vis-à-vis the additional recitations of the rejected claims.

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Claim 1, as amended, requires a directory system wherein memory is divided into memory segments dedicated to storage of corresponding subsets of directory data representing directory objects, the memory segments including an attribute memory segment dedicated to storage of attribute data for a plurality of directory objects, a DIT memory segment being dedicated to storage of DIT data for a plurality of directory objects, and an object segment dedicated to storage of management data for a plurality of directory objects. There is nothing in any of the cited documents, either alone or in combination, to each or suggest these features.

The Examiner's attention is also drawn to new claims 102-125. Claims 102-105 depend directly or indirectly from claim 1 and are thus believed to be patentable for at least reasons already noted above with respect to claim 1.

New process claims 106-123 are believed to be within the ambit of the elected subject matter. It will be noted that independent process claim 106 includes features patentably distinct from the cited prior art for reasons already noted above with respect to independent claim 1. Dependent claims 107-123 add yet further distinguishing features.
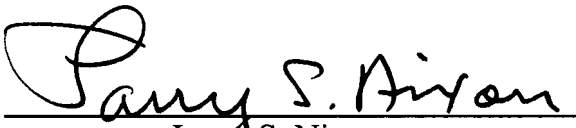
Claim 124 claims a directory system having components for executing the steps of claim 106 and claim 125 is directed to a computer-readable storage medium having stored thereon computer program instructions for executing the steps of process claim 106.

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Accordingly, this entire application is now believed to be in allowable condition

and a formal Notice to that effect is respectfully solicited.

Respectfully submitted,

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